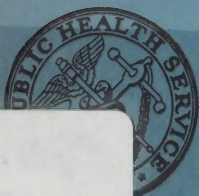


The Role
of
Grants-in-Aid
in
Financing
Public Health
Programs



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The Role
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Programs

by

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Public Health Service

FEDERAL SECURITY AGENCY

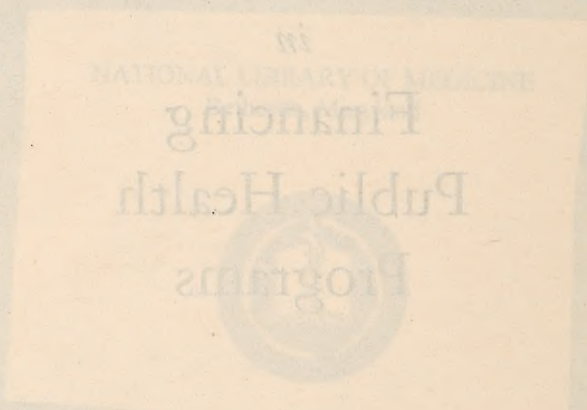
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FOREWORD

The development of local health departments to serve all areas of the United States brings public health administrators face to face with problems of intergovernmental finance. Many of these problems, moreover, are common to most local programs involving health, welfare, security, and other vital governmental functions. The generally limited tax base of local governments coupled with the increasing costs of governmental services make it more and more difficult for most localities to meet the costs of their basic functions without financial assistance from other than local sources. The pressing need of local jurisdictions for outside aid has led to the development of grants-in-aid and shared tax programs to help solve these problems of intergovernmental finance.

Lack of specific guides as to the purposes and uses of grants-in-aid has often been a handicap in setting up comprehensive local health, welfare, and security programs. This publication sets forth the general philosophy of grants-in-aid, with special reference to the principles and techniques of their application in the field of public health. It is based primarily on the experience of the Public Health Service in administering its grants to the States, but reference is frequently made to grant programs administered by other units of the Federal Security Agency as well as other government agencies, and the conclusions drawn have wide implications for many local governmental functions.

Oscar P. Ewing

Federal Security Administrator.

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Introduction

Local health departments are primarily concerned with the development of programs which will promote the optimum health of all the people within their jurisdictions. Inadequate local revenue has compelled local health departments to depend, to a limited extent, upon outside funds for assistance in the operation of some part, or parts, of their program. Financial assistance in the form of grants-in-aid and/or shared taxes has served to aid local programs in many fields. An estimation of past and present practices in the use of such financial aids is necessary in order to recognize and determine the general principles which underlie the application of such procedures to contemplated programs.

The Association of State and Territorial Health Officers has urged, on several occasions, that the Public Health Service make studies from which improved allocation procedures in State grants-in-aid programs might be evolved. State health officials, as well as Federal public health workers, are concerned that public funds be allotted to assure a more equitable distribution of public health services.

As a first study in this general field, a review of the literature was made to analyze the basic philosophy which has characterized the development and extension of grant-in-aid and shared-tax programs. Grants-in-aid and shared taxes are given somewhat parallel treatment in this discussion, but less complete analysis is made of the latter since this device, although extensively developed for the support of many public services, is seldom used in public health work. These two types of financial assistance represent phases of the entire sphere of intergovernmental financial relations. However, the joint participation in revenues by governmental units at various levels through the use of these techniques has become an important element in government finance.

In 1944, Federal grants for all purposes totaled 807 millions of dollars, while in the same year State grants-in-aid to local governments

The authors are indebted to Mr. Anton Druzina of the States Relations Division, who performed the necessary library research in connection with the preparation of this article.

amounted to 1,795 millions of dollars.¹ In 1940, States shared taxes with local governments to the extent of \$484,547,000.² These data show that the extent of financial aid given by States to local governments is much greater than Federal aid to States; also, State grants affect the daily operation of local government more directly. Grants-in-aid and shared-tax methods of financing have been extended to assist in the development and operation of programs in many fields, such as education, health, highways, conservation, hospital construction, airport construction, public assistance, and vocational rehabilitation. The number and size of grant programs now in operation emphasize the need for the continuous improvement of financial systems in which revenues may be redistributed in such a way as to overcome local inequalities that grow out of the present complex economic system.³ Problems affecting nearly every branch of the governmental fiscal system have expanded in type and complexity while the concentration of wealth, business, and industry in certain regions and metropolitan areas has complicated intergovernmental relations. Increasing economic disparity between localities has transformed many formerly local problems into items of State and national concern. In brief, the demand for Federal and State financial assistance arises from the need for relief of local tax burdens and for equalization of opportunity to share in many public services.⁴

¹ Bureau of the Census: State Finances, 1944. U. S. Government Printing Office, Washington, D. C. 1946. pp. 9 and 19.

² Temple, Ralph R.: The Shared-Tax Device in State-Local Relations. New York University. New York. 1946. p. 8.

³ Clark, Jane P.: The Rise of a New Federalism. Columbia University Press. New York. 1938. p. 319.

⁴ Spicer, George W.: Fiscal Aspects of State-Local Relations. Annals of the American Academy of Political and Social Science. 207: 151-152 (1940).

Development of Grants-in-Aid and Shared Taxes

The development of grants-in-aid and shared taxes in this country has not followed any fixed plan.⁵ The Northwest Ordinance of 1787, which provided that one section in every township be reserved for the maintenance of public schools within the township, represents the first Federal grant program.⁶ In the early part of the nineteenth century public domain was the country's most plentiful asset and, at one time or other, a total land area aggregating nearly 250,000,000 acres was transferred to the States as grants-in-aid.⁷ Land grants for public schools and universities were repeatedly increased and became universal in all States admitted to the Union after 1802.⁸

The next significant event in this development occurred in 1837, when the cash surplus in the United States Treasury was apportioned as loans to the States, with allocations based on each State's representation in the Congress.⁹ These loans were made with no expectation of repayment and actually represented the first cash grants to States. While they illustrate a method of apportionment which was new at that time, they were not designed to aid any particular government function.

From the middle of the nineteenth through the early part of the twentieth century, grants-in-aid were developed generally to stimulate new governmental functions. The passage of the Morrill Act of 1862, which made land available to each State to establish land-grant colleges providing nonclassical types of education, marked the first grant program of this type.¹⁰ Apportionment was based upon each State's representation in Congress. For the first time, a condition was imposed upon a grantee; the revenue derived from the sale of land grants had to be invested in securities of the United States or of the States, or in other safe investments yielding not less than 5 percent

⁵ Stauffer, William H.: *State-Aid Goals. Tax Relations Among Governmental Units.* Tax Policy League. 1938. p. 117.

⁶ *Journal of Congress.* 10: 121.

⁷ MacMahon, Arthur W.: *Public Spending With Strings.* Survey Graphic. New York. 27: 542-546, 571 (1938).

⁸ National Education Association: *Federal Aid for Education.* Washington, D. C. 1942. p. 5.

⁹ 5 Stat. 55.

¹⁰ 12 Stat. 503.

interest.¹¹ The wide variations in the cash revenue per acre derived from the sale of previous land grants made this provision seem advisable.

Grants-in-aid as payments in "kind" were initiated in 1879 by an act to provide equipment for the education of the blind.¹² Since distribution of equipment and educational materials was based on the number of pupils in educational institutions for the blind, the allocation procedure recognized the specific requirements of the group it was intended to aid.

It was during this period, in an act passed in 1868, that it was required, for the first time, that Federal funds be matched by State and local appropriations. This act authorized grants for homes for disabled soldiers and sailors on the basis of a fixed grant per individual, provided that the States matched the Federal funds which were made available.¹³

A basic Federal-State relationship, which became the pattern for subsequent grant-in-aid programs, was established by the Hatch Act of 1887, which authorized cash grants to States to develop agricultural experimental stations. Not only did this act impose conditions and regulations upon the Federal agency administering the grant, but it also provided that States would be penalized, by the withholding of funds, if they failed to observe the conditions which were set.¹⁴

Up to this time practically all of the Federal grants had been made for educational purposes; most of them were in the form of land grants to the States. The period that began about 1911 was characterized by the further development of stimulatory grants, but equalization of program level among grantees became an important consideration. This was also a time of broadened interest in the governmental functions to which grant-in-aid funds might be applied. In 1911, the use of a discretionary formula for grants-in-aid to the States was initiated when appropriations for forest-fire prevention were distributed on the basis of estimated cost of an adequate program.

A law for the maintenance of marine schools inaugurated the use of "open-end" appropriations, in which the Federal Government agreed to provide a certain proportion of whatever sums States and municipalities furnished for the support of schools of this type.¹⁵

The use of population as a basis for apportionment was introduced in the Smith-Lever Act of 1914, which provided that grants for agricultural extension work were to be matched by local funds.¹⁶ A major portion of the funds was distributed on the basis of rural population, while a much smaller amount was allocated as a lump-sum grant.

¹¹ MacDonald, Austin F.: *Federal Aid*. Thomas Y. Crowell Co. New York. 1928. p. 20.

¹² 20 Stat. 467.

¹³ 25 Stat. 450. Later amended by 57 Stat. 603.

¹⁴ 24 Stat. 440. Later amended by 34 Stat. 63.

¹⁵ 36 Stat. 1353.

¹⁶ 38 Stat. 372. Later amended by 49 Stat. 252, 49 Stat. 436, and 55 Stat. 413.

The Federal Road Act of 1916 illustrates the allocation procedures and conditions that have been required in grant programs involving specific projects.¹⁷ Apportionment of these funds to the States is based upon area, population, and rural and star postal-route mileage. Initially, a national road policy was defined and construction specifications and maximum costs per mile were established; later, Federal supervision was broadened to include not only the conditions for road construction, but also the State policies in regard to road maintenance.

An attempt was made to equate a population allocation factor with the demands for service in the Smith-Hughes Act of 1917, which included grants-in-aid for vocational education in agriculture, in trades and industries, in home economics, and for teacher training in each of these fields.¹⁸ Under this act, urban population was used to determine the allocation of funds for industrial training. Eventually, farm population formed the basis for the allocation of agricultural grants, and rural population was used as the basis for grants for vocational education in home economics.

The consideration of financial need as a factor to be used in allocation formulas dates from 1930.¹⁹ This philosophy grew out of a recognition of financial inequality among States, thrown into bold relief by the ravages of the depression. During this period of crisis, when States were faced with depleted treasuries and were unable to meet the cost of direct relief and other welfare programs, the financial aid offered by grants-in-aid became increasingly important. In the field of public health, financial need, as well as population and the extent of the health problem, were the factors considered in apportioning the money made available under Title VI of the Social Security Act.²⁰

In contrast to grants-in-aid, the history of shared taxes in this country is of more recent date. Although this type of assistance has not been used by the Federal Government to help finance governmental functions, it has been widely used by the States to aid local communities. In 1900 there were 17 shared tax laws in the United States; by 1910 the number had increased to 36. In 1920 there were 80 such laws, and in 1940 there were 260 State-administered, locally shared tax laws in the various States.²¹

History of Grants-in-Aid for Public Health

Federal grants-in-aid for public health purposes originated in 1918 with the Chamberlain-Kahn Act.²² Appropriations made under this

¹⁷ 39 Stat. 355. Later amended by 42 Stat. 212.

¹⁸ 39 Stat. 929.

¹⁹ MacDonald, Austin F.: Federal Aid to States—1940 Model. *American Political Science Review*. 34: 489-499 (1940).

²⁰ 49 Stat. 620.

²¹ Temple, Ralph R.: *Op. cit.*, p. 8.

²² 40 Stat. 886.

act were distributed to the States by the Inter-departmental Social Hygiene Committee for venereal disease control activities. The allocation was based upon population and was to be matched by State and local funds beginning with the second year of operation.

Prior to this time—actually in 1916—appropriations were made available to conduct special studies and demonstrations in rural sanitation. However, since this was a cooperative enterprise between the Federal Government and the States, with the Federal Government contributing funds directly for salaries rather than making payments into State or local treasuries, it cannot be considered a true grant-in-aid program. Appropriations for this purpose varied from \$25,000 in the initial year to a maximum of \$1,949,350 in 1932.

The Nation-wide public health program received a great stimulus in 1935 with the passage of Titles V and VI of the Social Security Act.²³ These titles authorized grants-in-aid for public health programs which were to be financially and technically aided by the Federal Government, but administered and supported, for the most part, by States and local communities.²⁴ Title V, to be discussed later, was designed to provide assistance for maternal and child hygiene programs and for the treatment of crippled children. Title VI provided that allocations were to be made to the States by the Surgeon General of the Public Health Service after considering population, financial need, and the extent of special health problems within the States.

Grants-in-aid for venereal disease control work were reestablished in 1938 by an amendment to the original Chamberlain-Kahn Act.²⁵ In the distribution of funds authorized by this legislation, the same criteria as those established by Title VI of the Social Security Act were to be used, except that the extent of the venereal disease problem was specifically named as one of the factors to be considered.

The Public Health Service Act of 1944 brought together all legislation pertaining to the Public Health Service, and also established a new grant-in-aid program for tuberculosis control.²⁶ Again the methods of apportionment enacted in Title VI of the Social Security Act were adopted, except that the extent of the tuberculosis problem in the various States was to be considered in allocating the funds available.

The Seventy-ninth Congress considered several additional public health grant-in-aid bills, two of which became law—the National Mental Health Act and the Hospital Survey and Construction Act.²⁷

²³ 49 Stat. 620.

²⁴ U. S. Treasury Department: *The Public Health Program Under Title VI of the Social Security Act*. 1937. p. 2.

²⁵ 52 Stat. 439.

²⁶ 58 Stat. 682.

²⁷ Public Laws Nos. 487 and 725, 79th Cong., 2d sess., July 13, 1946, and August 13, 1946, respectively.

Provisions for mental health grants were incorporated into the general health section of the Public Health Service Act. Factors to be considered in the allocation of mental health funds were population, financial need, and the extent of the mental health problem.

The Hospital Survey and Construction Act, on the other hand, defines the allocation formulas for distributing grants for both construction and surveys. Survey funds are distributed by making a minimum grant to each State and allocating the remaining available funds on the basis of population. In the allotment of construction funds, the extent of financial need is recognized more fully than in any previous grant-in-aid program in the public health field. Population and State per capita income are designated as the factors which determine the allocation to each State. In matching Federal hospital construction grants, the sponsor of the project is required to spend two dollars on the project for each Federal dollar received. The technical details of the allocation processes employed in the two general types of grants-in-aid for public health purposes are discussed in the Appendix.

Grants-in-aid for the protection of the health of mothers and children were initially provided in the Sheppard-Towner Act of 1921.²⁸ The Federal administration of this act was placed in the hands of the Children's Bureau, originally in the Department of Labor but recently made a part of the Federal Security Agency. In the distribution of maternal and child-health funds, each State received a lump-sum grant, and the remaining funds were distributed according to population; most of the grant had to be matched by State and local appropriations. Although the provisions of the initial act expired in 1929, similar programs were established by the Social Security Act of 1935. Under this act, each State initially received a lump-sum grant of \$20,000 for maternal and child health, \$20,000 for crippled children's services, and \$10,000 for child-welfare programs. Additional appropriations were allocated on the basis of a formula which considered the number of live births, the number of crippled children, and the cost of providing services. The allocation provisions of this act have since been amended to increase the size of the lump-sum grants and to include consideration of the extent of financial need in each State and the number of children in selected age groups.

²⁸ 42 Stat. 224.

The Problem of Taxation for Local Governments

Because of vast economic and sociological changes in the United States within the past century, greatly increased incomes have become available to central governments; some of these funds have been redistributed to subsidiary units of government.²⁹ The need for financial assistance to local governments and for the integration of intergovernmental fiscal relations has been accentuated by the conversion of the essentially agrarian and local economy of a century ago into an industrial and urban economy. Modern transportation and communication facilities have necessitated a reconsideration of local problems on a much broader and more comprehensive plane. The transfer of economic values from real estate, traditionally the foundation of local revenue, to the less tangible products of an industrial economy has dislocated the system of decentralized local tax administration and has placed new burdens upon State and local fiscal systems. This economic transformation has created a new and vastly more expansive wealth which is not circumscribed by political boundaries. It has created the need for legislative action to provide new sources of taxation and to find a solution to the difficulties in the assessment of corporate property. The desire to give assistance to finance local governments, to stimulate particular governmental functions, and to assure local expenditures for any specific service has further complicated intergovernmental fiscal relations. As a result of widespread problems which have arisen along with the economic changes, some States have taken over supervision of general property tax assessments through State tax commissions, or State boards of equalization, and new systems have been designed to tax specifically the productivity of wealth.³⁰

These developments have taken place as a result of the conflict of four fundamental principles of the American tax system, namely: (1) a shift in the forms of taxation from those suited to local or decentralized administration to those adaptable to centralized administration; (2) an increase in State- and Nation-wide responsibility in programs

²⁹ Metz, Harold W.: *Federal Grants-in-Aid*. Municipal Year Book, 1936. p. 399.

³⁰ Hutchinson, Ruth G.: *State Administered Locally Shared Taxes*. Columbia University press. New York. 1931. p. 18.

which involve cooperation and integration with local governmental activities; (3) and adherence to the philosophy of a decentralized form of government; and (4) a belief that in order to assure efficiency and economy of administration, a government function should not be performed by a unit which does not have some financial responsibility for it.³¹

The coexistence of centralized taxing authority and decentralized governmental administrative functions has created a disparity between the power of levying taxes, at various governmental levels, and the revenues needed to provide adequate funds for expanded public activities. An example of this may be seen in the way the total taxes for the Nation were collected and expended in a peacetime year, 1935. The Federal Government collected 37 percent of all tax revenues in the United States and expended 34 percent; State governments collected 23 percent and spent 14 percent; and local governments raised 40 percent and used 52 percent of all tax funds.³² As solutions for at least some of the problems inherent in this situation, several proposals have been advanced: First, that State and local taxing powers be increased; second, that responsibility for more functions be transferred from local to State and, possibly, to Federal administration; and third, that as many functions as possible be left to local jurisdictions, but that the responsibility for raising the necessary revenue be transferred to State and Federal governments. Attempts to expand the tax base at the local level have not been generally successful in this country. Similarly, attempts to transfer local functions to State and Federal administration have proven unsatisfactory in instances where detailed and specific knowledge of local conditions is essential.

The third method—transfer of revenue raising to State and Federal governments—is now coming into more general use. The return of such revenue may take several forms, but the usual plan falls into one of two closely related categories, namely, grants-in-aid or shared taxes. Both of these types of revenue allocation systems have the potential advantage of eliminating wasteful duplication of tax administration without seriously disrupting the distribution of revenue.³³ The two plans for returning tax funds to local jurisdictions are discussed separately in the following paragraphs.

³¹ Blough, J. Roy: Federal and State Grants-in-Aid. Proceedings of the National Tax Association, 1936. p. 266.

³² Newcomer, Mabel: Revenue Sharing Between Federal and State Governments and Between State and Local Governments. Proceedings of the National Tax Association, 1936. p. 276.

³³ Symposium: Tax Relations Among Governmental Units. Tax Policy League, Inc. 1937. pp. 100-101.

Purposes of Grants-in-Aid

Grants-in-aid may be defined as a subvention from a central governmental unit to a lower governmental level, either for a specific service or to assist in the performance of governmental functions generally.³⁴ The essential difference between grants-in-aid and shared taxes lies in the fact that grants-in-aid come from general revenues of the grantor government and do not vary with the yield of a specific tax. Shared taxes, on the other hand, are intended specifically to be shared with the locality in which they are levied.

Three primary objectives are envisioned in granting public funds from central to subsidiary government levels. The first and most fundamental purpose of grants-in-aid is to assure enough funds to operate a program of given scope and quality. This purpose includes the equalization of relative tax burdens, and the improvement of the tax system so that revenues are derived from the broad tax bases available to the State and Federal Governments as well as from local sources. Secondly, financial assistance from higher governmental levels stimulates local groups to develop new services and expand existing services on a sound pattern. Finally, an incentive to adopt high standards of program content and administrative procedure is provided by such financial aid.

The underlying purpose of grants-in-aid has been well illustrated by the element of workability which they give to an otherwise rigid and somewhat static revenue system under which local and State governments operate.³⁵ The recent war period proved that grants-in-aid were as effective in time of war as in peace.

One of the goals envisioned in a grants-in-aid program is equalization of opportunity. The costs of providing government functions are equalized by making certain that all units administering a specific function have the financial resources for its performance. Equalization requires, however, that the grantor government have a keen interest in the program for which grants are to be made.³⁶ It also involves taxing the wealthier governmental units for the benefit of the less wealthy and presents such problems as the determination of the administrative level for equalization as well as the methods of achieving equalization. It should be pointed out that methods of distribution applicable to grants-in-aid lend themselves more readily to equalization than do those usually inherent in shared taxes.

³⁴ Metz, Harold W.: *Op. cit.*, p. 399.

³⁵ Lepawsky, Albert: *Impact of National Defense on State and Local Finances. Proceedings of the Thirty-fourth Annual Conference on Taxation. National Tax Association. 1941. p. 38.*

³⁶ Metz, Harold W.: *Op. cit.*, p. 400.

It has been mentioned that grants-in-aid are effective in encouraging high standards of program content. This is the result of teamwork; the grantor provides technical guidance and consultation services which are translated into action by the local administrator who has a first-hand knowledge of local problems.

In the administration of grants-in-aid, the central government adjusts central tax collection to local program administration through its broad powers of taxation, powers not possessed by local governmental units. In grants-in-aid, the grantee's share of public funds depends upon local need, and is divorced from the grantee's ability to collect taxes.

Administratively, grants-in-aid usually assume a grantor-grantee relationship in which the grantor may specify general conditions to be attached to the expenditure of funds, but the prime responsibility for performance of the governmental function rests with the grantee government. Grants-in-aid may be used advantageously in sponsoring any governmental activity conducive to the general welfare while avoiding the necessity of establishing a centrally administered program.

In the field of public health, this system permits the development of equality among the health programs of all grantee units after the ability of each to finance public health work from local appropriations is considered. Although wide differences in fiscal resources cause discrepancies in the public health programs of local governments throughout the country, the public funds made available by a higher level of government tend to equalize health service in various areas.

The expansion of existing programs or the development of desirable new activities is the initial purpose of nearly every grant-in-aid program. Since a lag in initiating new activities locally results more often from lack of funds than from lack of interest, grants-in-aid serve to speed the development of new programs if the grantor assumes an appreciable part of the financial burden. Similarly, an impetus to improvement of existing programs is provided by grants-in-aid funds.

Finally administering public funds through a system of grants-in-aid creates the following improvements in program: (1) better policy making; (2) more efficient administrative techniques; (3) improved personnel standards; (4) frequent appraisal of program status; (5) increased financial participation through matching of funds; and (6) more economical management through auditing of accounts. These achievements of grants-in-aid are not generally possible under shared tax laws since the financial assistance given under the latter plan is based simply upon the amount of taxes collected, and since there are usually no conditions imposed upon the expenditure of whatever funds are made available.

Purposes of Shared Taxes

Shared taxes may be defined as those centrally collected taxes, a fixed proportion of which is returned to local governments, regardless of limits placed upon their use and regardless of the basis of distribution.³⁷ In practice, however, so many conditions are imposed upon shared taxes and so varied are their apportionments that, in many instances, they assume the character of grants-in-aid. The principal examples of shared taxes that have been used by the States to aid local communities are those levied upon gasoline, motor vehicles, personal income, general sales, alcoholic beverages, corporations, public utilities, inheritance, and severance.³⁸ This device has been used exclusively on the State-local level since, to date, no genuine Federal-State tax-sharing programs have been developed.

There are two underlying principles upon which the sharing of taxes rests, namely, the compensatory principle and the financial need principle. According to the first, the State reimburses the localities for the loss of certain revenue sources which the State has taken over. Consequently, the State attempts to return part or all of the proceeds to the locality in which the tax was collected. In 1928, 50 percent of the State-local tax sharing laws were based upon this principle, while data collected in 1940 indicated that only 32 percent of the programs were of this type. The second principle involves aid to communities because of financial need. This was the basis governing 68 percent of State-local shared taxes in 1940.³⁹

The chief purposes for which shared revenues have been used are, in order of their importance: highways, education, welfare, and public health. States share revenues with nearly all their political subdivisions. Gasoline tax alone is shared, in various States, with counties, municipalities, townships, villages, school districts, towns, and other special districts.⁴⁰ Each State designates a particular tax for whatever type of subordinate unit it deems best, but no attempt is made to establish a pattern of shared taxes, or to create even a semblance of uniformity.

Programs operated through a share tax plan encounter three major difficulties: Adaptation to local needs, excessive fluctuation in tax yield,

³⁷ Newcomer, Mabel: *Op. cit.*, p. 277.

³⁸ Uhl, Raymond and Shea, Anthony V.: *Municipal Year Book. The International City Managers' Association. Chicago. 1936.* pp. 367-389.

³⁹ Temple, Ralph R.: *Op. cit.*, pp. 10-11.

⁴⁰ Uhl, Raymond and Shea, Anthony V.: *Op. cit.*, p. 368.

and limitations imposed in the expenditure of the funds.⁴¹ The most frequent argument for the development and maintenance of shared taxes, as opposed to grants-in-aid, is that local governmental units share the revenue of a given tax in proportion to its yield in the local area. The difficulty with this principle is that the return of tax revenues is not related to local fiscal needs. Furthermore, communities cannot increase the tax rate to adjust the revenue to meet their needs. Finally, there is no way for the State to impose conditions on the use of the funds unless the revenue returned as a shared tax is designated for specific functions.

The relationship of grants-in-aid to shared taxes in the solution of problems of intergovernmental finance will be conditioned, in the final analysis, by the results they are intended to achieve. Fundamental fiscal revision should be based upon several factors; financial readjustment must be such as to equalize the revenue requirements and financial abilities of various categories of governmental units. Fiscal reform involves the distribution of tax burden among the various tax bases in accordance with accepted standards of equity and in accordance with the abilities of the various governmental levels to administer them. It ultimately involves the distribution of revenues by such devices as grants-in-aid and shared taxes. Finally, any fiscal reorganization should result in an equalization of the structure of financial resources as measured by acceptable standards of fiscal ability.

⁴¹ New York State Commission on State Aid to Municipal Subdivisions: New York State Legislative Document No. 58. Albany, New York. 1936. p. 10.

Allocation of Grants-in-Aid and Shared Taxes

The operation of any program designed to distribute centrally collected revenue to subsidiary governments makes it necessary to develop methods for apportioning the funds. The distribution procedures may be written into statutes or determined administratively.⁴² Hence this section is devoted to a discussion of the problems inherent in the shifting of public funds among the various levels of government, and a summary of principles that may help in the solution of these problems.

Since funds available from shared taxes are dependent upon the yield of a specific tax or group of taxes, the amount of the yield has an important bearing upon the methods used for the distribution of such taxes. Frequently the law specifies that the taxes be returned to the place of collection, and in such cases there is little or no opportunity to adjust payments in accordance with the differences in needs between communities. In other instances, however, the law may permit, or even provide, that measures of the problem or indices of need for fiscal assistance be considered in determining the share which each community is to receive. Therefore, the ensuing discussion of allocations of grant-in-aid funds may be applied to the distribution of the foregoing type of shared revenue, in principle, at least.

Important considerations when extent of the problem and measures of financial need are applied in the administration of grants-in-aid are the size and type of appropriation available for distribution and the relationship of the appropriation to the over-all program being aided. There are two basic types of grant-in-aid appropriations; one involves funds voted for grants in specific amounts that may or may not bear a relationship to the number of services to be rendered, or to the financial assistance required by the grantee.⁴³ The second type is that which provides a sum sufficient to meet the costs of the program. In a small number of recently established programs, the Federal Government has agreed to pay a proportion of the cost of the program administered by the State within the limits set by law. In such in-

⁴² Bitterman, Henry J.: *State and Federal Grants-in-Aid*. Mentzer, Bush & Co., New York. 1938. p. 437.

⁴³ Harris, Joseph P.: *The Future of Federal Grants-in-Aid*. *Annals of the American Academy of Political and Social Science*. 207: 14-26 (1940).

stances, the payment procedure alone determines the amount of funds available to a community. The Social Security Act of 1935 provides examples of this type of payment procedure with its provisions for old-age assistance, aid to dependent children, and aid to the blind. Most grants-in-aid, however, require formulation of an allocation procedure.

In developing financial cooperation between grantor and grantee governments, the question arises as to whether the relationship should be based upon an objective distribution formula or upon the subjective judgment of the administrator.⁴⁴ In the subjective method of distribution, the administrator of the grantor government determines the amount of financial assistance to be given to each grantee upon an appraisal of such factors as plans for expanded programs, need for financial assistance, and ability to utilize funds properly. In this technique of apportioning funds there is the danger that some grantees may receive more favorable consideration than others, thus weakening desirable cooperative relations. Another disadvantage of the subjective method is that it may result in abrupt fluctuations in allocations when the grantor administration changes.

In contrast to individual judgment, an objective formula provides a method of orderly division of public funds entrusted to the grantor government. This system gives assurance to legislative bodies, grantee administrators, and the general citizenry that apportionment of funds is free from bias or personal interest.

Objective formulas may be written into statute or administratively determined. In most cases, methods of apportioning grants-in-aid and shared tax funds are contained, in general terms, in the statutes establishing the programs. For example, the Public Health Service Act of 1944 establishing grants-in-aid for public health work enumerates the elements to be considered in apportionment (see p. 6). This legislation clearly defines the determining factors, but permits flexibility in actual allocation procedures.

Writing detailed formulas into the law may create problems in the event that it becomes desirable to modify the pattern of allocation to meet changing conditions. This difficulty is illustrated by the continued use of population, land area, and mileage of post and star mail routes as the bases for allocating Federal grants-in-aid for highway construction, even though it is now recognized that the traffic survey techniques have made available for many years more objective and more scientific measures of highway needs.⁴⁵ Detailed distribution formulas written into law do not always assist grantee governments to expand their services, adjust excessive burdens of taxation to relative fiscal capacity, or to equalize program costs and content. Legislation

⁴⁴ *Ibid.*, pp. 21-22.

⁴⁵ Bitterman, Henry J. : *Op. cit.*, pp. 477-494.

establishing grant-in-aid or shared tax programs might well include the basic factors to be considered in the allocation formula, but delegate to the administrative agency the duty of assigning weights to the designated factors and of making necessary adjustments to meet changing conditions.

Financial cooperation between grantor and grantee governments should envision cooperative planning of program and budgets so that program needs and budget requirements are known prior to the allocation of grants-in-aid or shared taxes. To be practical and workable, an allocation formula should take cognizance of the problems and resources of the grantee. The distribution of funds should be based upon a kind of grantor-grantee cooperative arrangement that will advance the operating programs in all areas and that will assure the participation of all localities in the funds to be distributed. The grant to each local area should be related to the amount of service to be performed, the financial ability, and the financial need of the grantee.⁴⁶ To achieve these objectives both local plans of action plus cooperative planning with the grantor agency are essential. Moreover, the method of allocation should permit long-range planning and progressive program development. The plan should always work toward equalization of inequalities in local financial resources so that all areas can provide at least minimum services.⁴⁷

While certain precepts in the distribution of grants-in-aid are generally accepted, additional research in the basic measures of services, financial ability, and the burden of taxation is vitally needed for the development of apportionment formulas. The literature dealing with grant allocation indicates that research in the development of apportionment formulas has been confined to individual and specialized programs, and that there has been little or no integration of the various studies.

Allocation of Shared Taxes

Generally, distribution of shared taxes is somewhat simpler than distribution of grants-in-aid. This is largely a result of the fact that many shared tax programs provide that revenues collected must be returned to the point of collection. Under these circumstances, the problem of distribution involves only the determination of the point of collection. There are two broad classifications of shared taxes. The first may be termed earmarked taxes; in this case the legislation levying the tax specifically states its use, but may or may not detail the methods to be used in its distribution. The second type of shared tax

⁴⁶ Mountin, Joseph W., and Sibley, Elbridge: Apportionment of Financial Aid for County Health Work. Public Health Reports. 45: 1-10 (1930).

⁴⁷ Kahl, John A.: Criteria for the Allocation of Subsidy to Local Health Departments. American Journal of Public Health. 37: 199-204 (1947).

provides revenues that may be spent for general governmental functions; here too, the methods of distribution may or may not be specified in the legislation. If either type of shared tax plan considers differences in service requirements, financial need, or the financial ability of the recipient governments, and if taxes are distributed in such a manner as to compensate for these differences, the problems connected with the distribution of shared taxes will closely parallel those applicable to grants-in-aid.

Block-Type Allocation of Grants-in-Aid

It has been pointed out that funds for grants-in-aid are usually derived from general revenue appropriations. Allocations from these revenues may be made in the form of block grants. For the purposes of this pamphlet, a brief discussion of the block-grant method of allocation will suffice, since it has not been used to any extent in the United States. This type of grant permits the money to be spent by local governments for general operating expenses with virtually no conditions imposed by the grantor. Such grants may be used for different purposes by different grantees. In European countries, this type of grant has been frequently used to relieve the financial burdens of local government without the necessity of expanding the local tax base. Limited block grants, in which recipients are required to use the grant for specific governmental functions, have been used occasionally in this country. The block grant makes it difficult for the grantor to stimulate the development of specific programs because of the lack of limitations on the use of the grant funds.

Allocation of Grants-in-Aid Through Equal Grants

In its simplest form, grant-in-aid funds can be distributed by dividing the total available appropriation equally among the several grantees without considering differences in population or local fiscal ability. Although this method is inflexible, it does enable each grantee to establish a basic organization to administer the aided program. This type of allocation may be used to advantage if available appropriations are small in comparison to ultimate program costs or if the grant program brings benefits not only to the people within the immediate area of the grantee government, but also to the entire Nation.

Equal grants characterized the land grants made under the Northwest Ordinance for the support of public education. Equal grants were also made for agricultural experimental stations with the objective of conducting agricultural research in the United States. This method of distribution is based on the assumption that research in the field would be of benefit to the Nation as a whole regardless of the State in which the research was conducted.

This method of distribution, if used at all, is usually modified when the appropriations involved are large enough to meet an appreciable part of the cost of a specific program or if there are wide variations in either the incidence of the problem or the fiscal ability of grantees. An evident disadvantage of the equal-grant method of distribution is that it results in unequal per capita distribution among the grantee governments. For example, the allocation of \$50,000 to each State would result in a per capita grant to Nevada ten times that of Kentucky and a grant to Rhode Island six times that of Alabama.⁴⁸

The allocation of equal amounts to each grantee is often used in combination with a variable grant formula. This procedure assists all grantees to establish the basic administrative organization essential to the program and also helps grantees which have small populations to meet the increased overhead costs. The combination of an equal grant plus an additional amount on a variable grant formula compensates for small populations and high overhead costs while at the same time recognizing differences in service requirements.

Distribution by Percentage Payment System

The percentage payment system is a type of allocation procedure primarily applicable to programs for which "open end" appropriations are available. Examples of this allocation method may be found in the programs for aid to dependent children, aid to the blind, and old-age assistance under the Social Security Act, which set the maximum amount of Federal funds that can be expended per person served. Grants-in-aid of this type are distributed on the basis of the grantor paying a predetermined percentage of the cost of the program. The percentage for each grantee may be varied in accordance with the grantee's fiscal ability. Under this procedure, the expansion of program in one grantee government does not affect the amount of grants-in-aid available to another unit.⁴⁹

Since legislative enactments providing for such a system of percentage payment generally limit its application to designated activities, the grantor must determine at least in broad terms the kinds of services which are eligible for assistance. This means that the grantor must assume some degree of administrative control over program content and expenditures. The percentage payment method of allocation enables States to place special emphasis on a particular problem, but does not achieve equalization of programs. If fiscal ability is properly taken into account, the burden of carrying on a common program by all States is equalized. On the other hand, the extent of programs

⁴⁸ Key, V. O., Jr.: *The Administration of Federal Grants to States*. Public Administration Service. Chicago. 1937. p. 322.

⁴⁹ Gerig, Daniel S., Jr.: *Formulas for Variable Grants-in-Aid*. Social Security Bulletin, Vol. 3, No. 6. June 1940. pp. 3-14.

in various States with essentially comparable fiscal ability may vary according to the desire of the grantee to develop the program at a satisfactory level and to meet a just share of the cost. If this allocation technique is used, the motivating force in providing an adequate program and in determining expenditures must come from the grantee government.

Project Grants

There is another type of grant-in-aid allocation procedure which is quite different from those already mentioned; it may be termed project grants. Under this procedure, a State, a local community, or any other type of grantee receives a grant on the basis of a plan or project submitted for approval. This plan may or may not envision complete coverage within the grantee areas. It is not usually formulated with the concept of equalized economic opportunity in mind. The project grant program assumes a more or less individualistic relationship between the grantor and each grantee. This particular type of grant program is highly effective in the development of basic research, the erection of physical plant facilities, or the further stimulation of those grantees which have the ability to expand programs rapidly and have sufficient financial resources to meet the requirements set up for matching the grants.

Since this type of allocation procedure is based almost entirely upon grantee-initiated projects, there is little opportunity for an equalization of program except, possibly, for physical plant construction programs. Grants distributed for operating programs, if made on this basis, almost invariably result in proportionately larger grants to those areas willing to spend from local fiscal resources. This type of allocation procedure is to be recommended for basic and specialized research programs in which the location of adequate facilities and qualified personnel is an important consideration for successful operations.

Variable Allocation of Grants-in-Aid

In the apportionment of funds to grantees it should be recognized that there are wide differences among local governmental units in service requirements and in the ability to meet the cost of even a minimum program. These differences create the need for a variable allocation formula, which will distribute grants-in-aid in such a way as to equalize the financial burden among grantees.⁵⁰ In the development of variable allocations, the administrative agency must develop objective and practical methods of measuring such factors as service requirements, need for financial assistance, and fiscal ability of local govern-

⁵⁰ Newcomer, Mabel: *An Index of Taxpaying Ability of State and Local Governments*. Columbia University Press. New York. 1935. p. 12.

ments. The selection of an appropriate yardstick often presents a controversial problem. Several factors that have been used are summarized in the following paragraphs under two broad headings—(1) those designed to measure service requirements, and (2) those that measure fiscal capacity. The advantages and limitations of incorporating each factor in an allocation formula are discussed.

Population is widely used as an index of service requirements and may be considered a valid measurement of “generalized need” in administering grant programs.⁵¹ For example, the services required of a local health department vary with the size of the population, which determines the size of the staff, the number of clinics, nursing visits, sanitary inspections, laboratory examinations, immunizations, and maternal and child health services needed in the local community. Total population may be used in allocation formulas when the advantages of grants-in-aid accrue to the entire population. Otherwise, the population factor in the formula should be confined, as far as practicable, to those groups that would benefit from the grant program.

In distributing Federal grants to the States, total population is one of the elements used in allocation formulas in several fields—general health, venereal disease control, tuberculosis control, mental hygiene programs, the training of vocational education teachers, highway construction, and hospital survey and construction programs. In an earlier period, allocations for infant and maternal hygiene were determined by total population, but the formula was later modified. The population factor is also used in the allocation formulas applied to several State-local grant-in-aid and shared tax programs.

In many instances, data for selected portions of the population have been used in determining allocations which are intended to benefit directly the groups concerned. For example, in the first use of population in a Federal-State allocation formula, the Smith-Lever Act of 1914 specified that rural population was to be the basis for distributing grants-in-aid for agricultural extension work; later, farm population was designated. Population counts for selected groups are used in allocation formulas for Federal-State grants-in-aid for vocational education in agriculture, industry, and home economics. In State-local grant-in-aid and shared tax programs, a wide variety of selected population counts are used in allocating funds. For example, the school census, the number of school-age children, teachers, class units, pupils enrolled in high school, and persons of high school age are among the factors currently considered in distributing funds for education. In apportioning funds for highway construction and maintenance, rural population and farm population figures are used.

⁵¹ Wueller, P. H.: *Income and the Measurement of Relative Capacities of the States*. Studies in Income and Wealth. National Bureau of Economic Research. 1939. Vol. III. p. 445.

The reasons for using such population figures, where they are appropriate and available, are quite obvious. The relationship between total population and the number of school children, for example, is not comparable in all areas; therefore, total population is no longer used as a basis for apportioning State school funds.⁵² Similarly, general population might be considered a relatively poor measure of service requirements in specialized public health fields in which only particular groups of the general population who are exposed to or susceptible to particular diseases require control programs.

On the other hand, population serves admirably in allocation formulas designed to meet broad basic service requirements, such as basic health department organization and functions. It may well be used where data are available for the geographical areas which benefit from programs essentially involving services to individuals.

Considerable interest has been expressed in the increase of operational and administrative costs which results from coverage of large areas which are sparsely populated. Economical local operation is difficult in such areas and special cognizance of this problem is made in current grants for public health, highway construction, maternal and child health programs, and, to some extent, in every grant program which provides a minimum lump-sum grant to each grantee. For example, the Bureau of Public Roads considers area as an element in the allocation formula. Similarly, the Public Health Service uses a reciprocal function of population density to compensate for sparsity of population and inaccessibility of health facilities. The use of such factors in apportionment formulas usually results in a weighted lump-sum grant to sparsely settled areas, modified, perhaps, by a measure of fiscal ability.

A wide variety of other measures of service requirements are used in Federal-State and State-local programs of grants-in-aid and shared taxes. Units of service requirements are sometimes developed for use in apportionment formulas. One such unit is the class unit which is used by ten States in distributing grants for education.⁵³ Class units may be defined as the number of school classes of a standard number of pupils, or it may be used to indicate each class, regardless of size, in the school. The use of units as a measure of over-all service requirements may be open to criticism because, unless a standard unit is prescribed by the grantor, the number of pupils in a unit may be large in some districts and small in others, depending upon the policy of the grantee.⁵⁴

⁵² Swift, Fletcher H. : *Federal and State Policies in Public School Finance in the United States*. Ginn & Co. 1931. p. 209.

⁵³ Bitterman, Henry J. : *Op. cit.*, p. 444.

⁵⁴ Snively, Tipton Ray ; Hyde, Duncan Clark ; Biscoe, Alvin Blockman : *State Grants-in-Aid in Virginia*. The Century Co. 1933. pp. 85-106.

Bills were introduced in the Eightieth Congress which, if enacted, would have provided grants-in-aid for local health services. The grants would be made to the States for redistribution to local health departments. Each State with an approved plan, under the provisions of these bills, would be entitled to receive from Federal funds about one-third of the cost of operating the plan. The Federal share paid to any State would vary in accordance with the relative fiscal capacity of the State as compared to other States, except that Federal assistance to any State could not exceed two-thirds of the cost of the State plan. A further limitation upon Federal participation in the State plan would be provided by limiting Federal participation to only \$1.50 per capita expended in carrying out the State plan. In effect, these bills base the measurement of service requirements upon the cost of providing an acceptable program in a specific local health department jurisdiction. Allocations are not involved in this procedure since it is essentially a percentage payment system of grants-in-aid, in which the Federal Government agrees to match approved local expenditures in accordance with a formula specified in the act.

Mortality and morbidity data are often employed as indices of required public health services. Such statistics are of special value if the distributed funds are to be applied to specific health problems, such as tuberculosis control, venereal disease control, or maternal and child health programs. Accuracy and completeness of reporting are essential if vital statistics are to be used. Available mortality and morbidity data must reflect the size of the health problem the grant is designed to control. For example, the use of tuberculosis death figures as a factor in allocating funds for tuberculosis control is only valid to the extent that mortality from the disease may serve as an index of the need for control measures. Available data indicating low mortality, and more particularly low morbidity, may, however, reflect incomplete reporting as well as positive accomplishments as a result of effective public health measures. Incomplete reporting is probably most serious in the areas which lack effective health programs and which, therefore, may have the greatest service requirements. At the present time, public health programs extend into fields for which morbidity data are not available. Effective public health control measures decrease both morbidity and mortality, but considerable financial assistance may be required to accomplish and maintain this good record. Hence, the proper functioning of protective measures, such as water purification or milk pasteurization, carries its own justification, regardless of the incidence of diseases against which such measures are directed.

Caution is necessary even when using published mortality data as an index of need for public health services. Because of the neces-

sity of selecting one primary cause of death, many contributing causes are minimized in census tabulations; examples are pneumonia and influenza, arteriosclerosis, and syphilis. Much more difficult to obtain than mortality data are morbidity rates, because of the lack of reporting machinery. Except in the case of selected communicable diseases, records of disease prevalence are now limited to special studies such as the National Health Survey of 1935-36, hospital records, industrial absenteeism, sickness insurance records, etc., all of which might be utilized as criteria of service requirements.

Fiscal measurements are frequently used to evaluate service requirements, as well as to measure financial need and ability to pay the costs of government. The costs of operating a program may be used to estimate service requirements if standard cost data are available. As previously mentioned, this system has already been successfully employed by the Forest Service. Normally, cost data do not constitute an objective yardstick of service requirements since the magnitude and cost of a program are the result of local policy determinations. This is illustrated by educational aid formulas that sometimes use value of school property per pupil as a measure of educational needs, although the actual needs do not bear a direct relationship to the value of school property.

To summarize, various measures for determining service requirements of grantees have been discussed—such factors as total population, limited population groups, units of service, indices of sickness and mortality, and fiscal units of cost. It appears that service requirements for programs affecting people are best appraised by some type of population measurement, either general or specific, for the group to be benefited by the program. This is especially true of a general health program since all substantial studies have shown that health needs tend, on the average, to be similar for the general population throughout the continental United States.

Measurement of Financial Need and Fiscal Capacity

Formulation of measurements of financial need and the fiscal capacity of local governments present two of the most vexatious problems in the apportionment of grants-in-aid.⁵⁵ The need for financial aid is created by, and generally proportional to, the lack of local resources. Thus, to insure a proportionate increase in assistance to areas of limited fiscal resources, measures of financial need are incorporated into allocation formulas. To compensate for the lack of local fiscal ability, poorer areas are required to expend less than other areas to receive a proportionately larger grant. Consideration of

⁵⁵ Leland, Simeon E.: *The Relation of Federal, State, and Local Finance*. Proceedings of the Twenty-third Annual Conference on Taxation. National Tax Association. 1931. pp. 95-97.

financial need and fiscal ability necessitates understanding of the taxing powers of local governments and their ability to share expense in a grant program.

Local taxation is based essentially upon real estate valuations; therefore, a measure of relative fiscal ability of local governments could be determined by imposing a fixed tax rate against a uniformly assessed valuation. The theoretical tax yield of a uniform tax rate applied to equalized assessed valuations may be used as a criterion of relative fiscal capacity of local governments if an annual equalization of assessed valuation is made by some central governmental agency. Such a procedure is impractical, however, unless there is a uniform assessment or at least an equalized assessment among all grantees.⁵⁶ Actually, assessed valuations on real estate generally vary from locality to locality within a State, and there is little uniformity of assessment procedure. Any data based upon assessed valuation are of little value as an index of the relative fiscal ability of two political subdivisions if one of them assesses property at 100 percent of market value and the other for as little as 50 percent of market value.

Some commonly used measures of fiscal ability and financial need are revenues from general or selected taxes, income tax returns, tax expenditures, bonded indebtedness, postal receipts, automobile registrations, values of retail trade, and wholesale trade values. While all of these measures have definite limitations as indices of a grantee's ability to finance local governmental functions, they may be used in allocation formulas for making grants, if there is clear understanding between the grantee and the central government of the techniques used in the collection of the data.

Although the per capita income of an area is not generally taxable by the local government, it does reflect the local economic level and may be used to reveal differences in fiscal capacity among communities. In practice, it has been considered the best measurement of the comparable ability of the States to finance public services.⁵⁷ While the Federal Government publishes per capita income data on the State level only, annual estimates for cities and counties in the United States are available from commercial rating agencies and for certain States from official and nonofficial State organizations.

What are the objections to using per capita income as a measure of fiscal ability? First, income payments do not make allowances for Federal income taxes paid; but recent studies have indicated that adjustment for such taxes would have little effect upon per capita income as a measurement of the relative fiscal capacity of the States. Secondly, per capita income data make no allowance for differences

⁵⁶ Morrison, Henry C.: *School Revenues*. The University of Chicago Press. Chicago. 1930. pp. 172-173.

⁵⁷ U. S. Treasury Department: *Committee on Intergovernmental Fiscal Relations*. Federal, State, and Local Government Fiscal Relations. (Doc. 69, 78th Cong., 1st sess.) p. 172.

in minimum basic living costs. Adjustments for this factor in the allocation formulas would greatly expand the range in the determination of fiscal ability of the States, because a much larger proportion of income is consumed in meeting basic living costs in the poorer States than in the more prosperous States. However, even with limitations on the use of per capita income as a direct measure of fiscal ability and an inverse measure of financial need, experience has proven the value of its use in the distribution of grants-in-aid.⁵⁸

Some States have made studies which provide more satisfactory data on local fiscal capacity than those generally used, and whenever grant-in-aid programs are being considered, careful investigations should be made to assure the use of the most descriptive data available. It is important, however, that any index used in determining the allocation of grants should be free from bias. The material should be reexamined periodically to see that it reflects changing conditions and to ascertain that no changes in collection procedures have been made which might introduce bias.

The rigid and somewhat static revenue system prevalent at State and local levels increases the relative importance of the fiscal ability of the grantee and the need for financial assistance as considerations in any allocation formula to be applied to grants-in-aid or shared taxes.⁵⁹ A more equalized economic opportunity for the support of any program exists when the broader tax base of the grantor can be used to obtain revenues. These broader powers of taxation, coupled with the consideration of fiscal ability and financial need in making allocations to grantees, tend to equalize the tax burdens placed on the community for the support of a specific program.

Grantee Cooperation and Matching of Funds

Actual operation of grant-in-aid programs requires that the grantee play an active role in carrying out the service program. The influence of the granting agency is exerted in the requirement that the local government accept certain standards and confine expenditures to activities for which grants are made available. Basically, standards set up by the granting agency are general in character, and require the grantee government to have its program conform to generally accepted objectives, to present an acceptable administrative organization, to submit its plan of action and a budget, and to prepare such records and reports as are necessary for an administrative review of the program.

In the establishment of financial relationships between two levels of government, the allocation of funds and the matching requirements

⁵⁸ Ibid. pp. 171-172.

⁵⁹ Lepawsky, Albert: Impact of National Defense on State and Local Finances. Proceedings of the Thirty-fourth Annual Conference on Taxation. National Tax Association. 1941. p. 38.

have often created misunderstanding. Certain principles in the allocation of funds have already been discussed, and this paper deals next with the closely related problem of matching funds. In other words, how much money shall each grantee be required to invest in a program in order to receive part or all of a given grant?

In the United States, grants-in-aid are customarily paid on the condition that the grantee expend funds for the same general purpose that the grant supports. This requirement is frequently applied to shared taxes too, but its use in this respect is not universal. Generally, uniform matching is required of all grantees and the grantee is usually required to spend an amount of money at least equal to that of the grant. Since this practice makes no allowance for the relative fiscal ability of the several grantees, it enables those with large financial resources to match all grants, regardless of their size, and to support more elaborate programs. The end result is to perpetuate, or even augment, existent inequalities of program.

It should be pointed out that strict enforcement of uniform matching requirements is logical if the primary purpose of the grant-in-aid program is to stimulate grantee participation in new activity. By requiring matching on a dollar-for-dollar basis, it is possible to draw at least fifty percent of the program costs from local revenues. If, on the other hand, the purpose of the grant is to provide all grantees with an equal opportunity to carry on the program, then a variable grants formula and a variable matching formula may be used to reach this goal.

Although variable matching formulas are applicable to grants-in-aid of both fixed and "open end" appropriations, they remain essentially untried in the realm of Federal grants-in-aid to the States. By comparing the per capita income of each grantee with that of the grantor, it is possible to determine the relative contribution of each. The use of financial need in the allocation of public health funds to assist the less wealthy States does not completely achieve its purpose because of uniform matching requirements. To date, the grants available have not placed an undue matching burden upon any State even under the uniform matching requirement. The time may well be at hand, however, when some of the poorer States will be forced to decide which of the many Federal grants they will match, since the tax revenues available to them for matching purposes may be insufficient to keep pace with all Federal grants. There are already instances in which States have curtailed worthy local programs so that State funds could be used to match grants made by the Federal Government in other fields. This situation is inevitable if the number of grant programs continues to increase in size and in amount, and if the nonvariable matching formulas continue to be used.

A Sample Plan of Equalized Allocation

There are many methods of insuring the distribution of funds on the basis of an equalized allocation and matching procedure. The sample plan outlined here suggests only one of several methods that might be used to equalize the financial differences among the various recipient units of government through the use of grants-in-aid. This plan illustrates three important factors of an allocation formula: (1) measurement of service requirements, (2) financial need of the recipient, and (3) the fiscal ability of the recipient to provide the program without outside financial assistance. The measurement of service requirements has been assumed to be reflected for this example by the total population count. Financial need is assumed to be related inversely to per capita income data, while fiscal capacity varies directly with such income data.

The technique for computing the fiscal capacity of each recipient unit works in the following way: the grantor first determines the percentage of program cost to be paid through grants in recipient units of average per capita incomes. This percentage may be 40, 50, or any other selected value. The corresponding percentage of fiscal capacity for each participating unit varies above or below this selected figure to the same proportionate extent that per capita income of the recipient unit deviates from the grantor average. This measure of fiscal capacity may be used in determining the amount of matching funds required of each recipient.

The index of financial need is essentially the complement of the percentage of fiscal capacity and is readily obtained, therefore, by subtracting the percentage of fiscal capacity from 100 percent.

Having measured service requirements, fiscal capacity, and financial need, it is possible to combine these factors into a mathematical formula to be used in computing the allotments to each grantee. The measurement of service requirements (population in this case) multiplied by the index of financial need results in a weighted measurement of service requirements for each grantee adjusted to its relative financial need, as compared to other grantees. The allocation to each recipient unit is that proportion of the total funds available which the unit's weighted service requirements are to the total of all weighted service requirements. The grant, therefore, is conditioned by and adjusted to the need for service and the need for financial assistance.

Fiscal capacity of the community to finance its own program determines the matching ratio for each grantee. The ratio between the percentage of fiscal capacity and the index of financial need indicates the number of recipient's dollars necessary to claim each dollar granted by the grantor.

A distinctly different approach to the problem of allocation may be made if appropriations available to the grantor are of the "open end"

type, i. e., authorization for the appropriations necessary to participate in a program by set formula, whatever the over-all cost may be. Such a plan involves little in the way of an allocation procedure except the agreement of the grantor to pay some predetermined share of the program for which plans and budgets are approved.

The local health service bills being considered by the Congress at the time of this writing involve grant-in-aid programs of this type. Under these bills, a State with an approved plan would be entitled to receive an amount from the Federal government which bears the same ratio to one-third of the expenditures for the year under the plan as the average per capita income of the United States bears to the average per capita income of each State. Federal assistance would be limited to a maximum of two-thirds of the cost of any State plan, and the expenditures in excess of \$1.50 per capita would not be considered when calculating the Federal assistance to any State. Thus, this program would recognize service requirements as being reflected by the costs of providing basic health services within a State. It would also recognize the fiscal ability of recipients by reducing proportionately the participation of the grantor in areas having more than average fiscal capacity and by increasing grantor participation in areas of less than average fiscal capacity. The areas with greater financial resources would have to pay a larger proportion of the costs of the plan while areas with lesser financial ability would pay a smaller proportion of the total cost of the plan. The plan is essentially a payment procedure with payments automatically geared to grantee expenditures; and failure to carry out a program completely would result in the distribution of the same proportionate share of costs between grantor and grantee which would hold true under the complete program. It is obvious that this type of grant-in-aid procedure is equally well adapted for use at the Federal-State level as it is at the State-local level.

Allocation Procedures as Related to Grantor's Services

The services performed by the grantor for the benefit of the grantee constitute a factor that should be considered when allocating funds. Present in many programs, this problem is particularly important in the field of public health. There is no uniformity in the organizational pattern of health departments at either the State or local level, and the extent of services received varies greatly among grantees. As a specific example, laboratory services are customarily provided by State laboratories, but these services may be duplicated by some local health departments, which may operate their own laboratories to provide part, or all, of their required services. This problem exists to some extent in dental health programs, nursing services, and other public health activities.

If the aim of grants-in-aid is to achieve a comparable health program in all grantee units, then services performed by the grantor have a bearing upon the equalization and constitute an item to be considered in making cash allocations to grantees. Inclusion of the services may have a marked effect on costs of operating the local program. By assigning a monetary value to such centrally performed services, the cash allotments to grantees could then be adjusted to take such services into account.

The solution to the problem is not as simple as this discussion might indicate since assigning a cash value to specific services rendered by the grantor involves making a distinction between those services which constitute normal administrative costs and those which represent extra services. By extra services is meant those customarily performed by grantee health departments or those which, by accepted public health practices, should be available at the local level. It is relatively easy to determine the costs of individual laboratory services and to note the local area for which these services are centrally performed. This information is all that is required in determining the cash value of laboratory services to grantees. Determination of unit costs in corrective dentistry are also readily obtainable and are not easily confused with the administrative costs of the grantor dental health program. More difficulty is experienced in determining the value of services rendered to grantee health departments in the field of sanitation, maternal and child health consultation, nursing services, tuberculosis control, venereal disease control, and others. Considerable research is necessary before the unit costs of services performed for grantee health departments in these fields become available, but the solution to this problem is not beyond the realm of practicality.

After determining the cash value of services provided by the grantor for the grantee, the problem of its use in the allocation formula must be solved. The sum of such services for all grantees in effect constitutes the equivalent of additional funds for distribution within the allocation formula. After determining the allotment to each grantee by formula, the cash value of services rendered should be subtracted from this allotment, and the grantee should receive the remainder.

However, it is not feasible to include services provided by the grantor as a factor in allocation until unit costs and the volume of service rendered can be determined. If factors of this type are to be incorporated, studies should be set up to provide data on costs and the number of services. Studies could be made in several State health departments to evolve procedures which would make practicable the incorporation of measurements of the cash value of services to grantees in allocation formulas.

Administration of Grants-in-Aid

Establishment of a grantor-grantee relationship for the distribution of funds assumes that certain standard administrative techniques will be established with the advice and cooperation of the grantor. Virtually all such relationships are based upon the exercise of certain administrative powers by both the grantor and the grantee government, the grantee permitting the grantor certain administrative prerogatives in exchange for financial assistance.⁶⁰

A statute providing for grants-in-aid normally designates the administrative agency at both the grantor and grantee level of government. These administrative agencies may already exist or they may be new agencies established for the specific program. Because of the lack of uniformity in the administration of different functions, there often occurs a shift in the responsibilities to meet conditions set forth by statute or by the grantor. The tendency in grant legislation has been to encourage uniformity with respect to the department of government administering a certain function.

The administrative problems in grants-in-aid revolve about such general topics as: Plans and budgets, inspection and field services, the audit, records and reports, imposition of sanctions, and personnel practices.⁶¹ Each of these fields contains items important enough to warrant independent discussion.

Plans and Budgets

Administration of a grant-in-aid program is usually based upon a plan and budget made by the grantee and submitted to the grantor for approval prior to receipt of financial assistance.⁶² The provision for review and approval by the grantor of plans and budgets as a condition for receiving the grant may be established by statute or by administrative regulation.

The types of plans which may be submitted fall into three categories. The first type delineates the particular projects that are to be carried out with the assistance of the grant; it is applicable to highway construction, research projects, hospital construction, and other activities not repetitive in nature.

⁶⁰ Clark, Jane P. : *Op. cit.*, p. 57.

⁶¹ *Ibid.*, pp. 305-306.

⁶² Key, V. O., Jr. : *Op. cit.*, p. 64.

The second kind of plan indicates broad programs of diffuse activity. While this plan outlines the organization and procedure contemplated to achieve the purposes of the grant program, it is general in character and not as restrictive upon the grantee as the other types. Plans of this type are submitted in agricultural extension work, forest fire prevention, child welfare, and public health.

Another type of plan is that which prescribes procedures for determining the eligibility of individual citizens for benefits and sets up the administrative machinery to accomplish payment. This plan is applicable to programs such as old-age assistance, aid to the blind, and aid to dependent children.

There are obvious advantages in submitting plans to the grantor for prior approval. This procedure offers assurance that the basic purposes of the program agreed upon between grantor and grantee will be accomplished with some degree of uniformity in the different units. The grantor may suggest changes in the plan, serves as a clearing house for ideas developed in the field, and makes these ideas available to all grantees; thus, the quality of service is improved. Prior approval by the grantor creates a planning attitude among local administrators since it forces them to anticipate program requirements before receiving financial assistance.

Inasmuch as plans applicable to broad social problems should be revised and modified wherever necessary in the light of operating experience, the revision of established plans should be made easy for the grantee. With this in mind, the Public Health Service makes available technically trained regional consultants to assist the States in formulating plans and adapting them to changing situations. This action permits the pooling of ideas advanced by both the grantor and grantee.

Inspection and Field Service

Important administrative functions of the grantor agency are the provision of consultative services for the grantees and the inspections of their programs. Primarily, inspection should satisfy the grantor that specified conditions imposed by statute or administrative regulations have been satisfied.⁶³

When properly planned, an inspection may be an instrument for improving grantee programs. The grantees may be influenced by persuasion, stimulation, encouragement and, as a last resort, administrative authority. The inspection and field service offered by the grantor should be more than a periodic visit of a formal nature; it should be based upon an intimate knowledge of grantee programs. Thoroughness is a prerequisite in inspection. Since the personnel of the inspection and field service advise the grantees, they must be well qualified

⁶³ Clark, Jane P. : Op. cit., p. 214.

and have good technical training; they should have a constant aim of collaboration with the grantee. The United States Forest Service was the first Federal agency to demonstrate the workability of this type of inspection and field service.⁶⁴

Associations and conferences are valuable aids in formulating administrative policy for grant-in-aid programs in the light of knowledge possessed by the best trained scientific personnel.⁶⁵ Participation by expert consultants encourages intergovernmental coordination and interchange of ideas for improvements in program.

The Fiscal Audit

Expenditure of grant funds by grantee governments universally requires grantor audit, which applies primarily to grant funds and to the matching requirements they involve. The initial statutory provision for such an audit was incorporated in the Hatch Act of 1887. In practice, the fiscal audit is a protective device to verify honesty, insure that matching requirements are being met, and protect the grantor interest. As such, it is a valuable supplement to other administrative measures designed to insure proper expenditure of funds. The audit procedure, however, should never take precedence over consultation service and cooperative planning.

Records and Reports

Records and reports are necessary to the successful operation of a grant-in-aid program since they serve as a measure of operations and a means of evaluating their efficiency. There are two widely different points of view as to what data are necessary to the grantor for administering a grant-in-aid program.⁶⁶ According to one viewpoint, a detailed expression of the services which operating agencies usually perform would be desirable for the discharge of State and Federal, as well as local responsibilities. According to another, the only type of report material needed by grantor agencies is information which will, first, satisfy them that no financial irregularities are practiced and that competent personnel are employed, and secondly, describe, in general fashion, the services performed. To reduce the burdensome detail of reports, it should be decided what specific data are essential to the functions of the receiving office, and how the collection of the necessary data can be expedited.

⁶⁴ Key, V. O., Jr. : Op. cit., pp. 57-60.

⁶⁵ Clark, Jane P. : Op. cit., pp. 20-24.

⁶⁶ Mountin, Joseph W., and Flook, Evelyn : Devices for Reducing Health Department Records and Reports. Supplement No. 187 to the Public Health Reports. U. S. Government Printing Office, Washington, D. C. 1945.

Program Review of the Public Health Service

In carrying out the administrative functions discussed previously, the Public Health Service has developed a plan for appraising State programs. For this purpose it has established district offices staffed by consultants in the numerous fields of a modern public health program. The consultants work closely with the States in developing programs and do much to foster a cooperative attitude between the grantor and the grantee in all public health activities. They also assist the States in developing their plans and budgets, review the program as planned and budgeted, and handle the matter of field consultation and inspection.

The "Annual Combined Report and Plan of State Health Departments" is the basic document required of the States annually to describe their program in justification of Federal aid. The plan sets forth the funds available locally for support of the program, together with those contemplated from other sources. As far as possible, funds are allotted to specific functions, and the staff to be employed is described by professional status and functional assignment. A statement is included of the facilities to be operated by the department and the services to be rendered. Symbols are used by the health officer to indicate whether an activity is represented in the program, and whether it is a major or minor item. Symbols are also used to indicate decrease or increase in an activity over the previous year, and for the ensuing one. After review by personnel in the regional office and by the Surgeon General and approval by the latter, these plans constitute agreements between the Public Health Service and the State departments of health.

After this plan has been effected, there is the problem of determining whether the grantee—in this case the State health department—has fulfilled its part in the undertaking. The method which the Public Health Service has developed to attain this end is generally referred to as program review. This scheme has been effective in reducing the voluminous statistical reports previously required of the grantees.⁶⁷

The basic purpose of the program review method is to enable the grant-in-aid agency to determine whether the aided program has been pursued in accordance with the approved plan; it is not geared to epidemiological or administrative research. The only records required are those which form a part of the operating record of the health department. The philosophy underlying program review is that the prime responsibility for the development of the program rests with the grantee, and that, given competent personnel, a creditable performance can be assumed within the limits of available funds and facilities.

⁶⁷ Mountin, Joseph W., and Flook, Evelyn: Program Audit—A Device for Reflecting Public Health Performance. *American Journal of Public Health*. 37: 1137-1142 (1947).

The basic procedure in program review is field observation of actual operation by consultants of experience and judgment, and discussion between representatives of the supporting agency and the operating agency. In this way more thorough knowledge concerning a program may be gained in a few days of observation at the site of operation than is possible through extensive study of summary activity reports. Program review has the advantage of combining consultation with appraisal.

The procedure generally employed by the Public Health Service is as follows: the program reviewer, always a technically trained person and usually a specialist in the particular subject under study, familiarizes himself with the commitments made in the grantee's plan, particularly those concerned with funds, staff, equipment, and service items, and forms a conception of the program in operation. When he arrives in the operating area, he determines whether any peculiar problems of the programs exist and decides whether reasonable efforts are being made to solve them. Conclusions as to the quality of services rendered are based upon several approaches: well formulated questioning of the operating staff, field visits with staff members for observation of techniques, spot check of operating records, examination of educational material used, and determination of methods employed by the operating agency to evaluate programs. From a spot check of service records, the reviewer determines the coverage of services—the area and people served and the inclusion of essential items. He observes economy of operations; adequacy in quarters, equipment, and supplies; morale and advancement of staff, and progress in accomplishing objectives. At the end of each visit the reviewer records his findings on a report sheet designed for the purpose, and makes comments from his observations. On a designated date, the reports of the several consultants are combined into an over-all program review report covering the health department as a whole.

At the present, each State has adopted the Annual Report and Plan for its use and, within the present fiscal year, reviews will be made for all State health departments. In the future, it is planned to make formal report of the reviews once every 2 years.

Personnel

The establishment of standard personnel specifications by grantor governments has served to improve operating units through its requirements that the qualifications of employees meet established standards if they are to be paid from grant funds. The grantor's interest in personnel is confined to the establishment of qualifications, salary scales and retirement benefits, and the training of personnel. The grantor does not exercise power of personnel selection. The Public Health Service has assisted the States in the establishment of merit systems

for the selection of personnel to be employed in units receiving grants-in-aid.

The appointment of qualified personnel, however, represents only a portion of the problem. Equally important is the provision of an adequate salary scale and the security of tenure of office for competent people, once hired. Considerable activity in these fields is under way, at present, in public health. Much work remains to be done in the establishment of promotion systems based upon merit, and of a system of retirement benefits after a sufficient period of satisfactory employment.

Imposition of Sanctions

While the grantor cannot condone gross failure to cooperate without losing the respect of other grantees, an endeavor is always made to correct conditions without terminating relationships. Unfavorable comment by the grantor is frequently sufficient to obtain the grantee's cooperation in correcting program operations. Official reprimand is also effective in securing the compliance of grantees since it brings the errors and inefficiencies of the administration to the attention of higher State or local authorities. Failing to secure cooperation through these techniques, the grantor may actually disapprove specific budget items which are not in accord with the cooperative program agreed upon by the grantor and grantee. Payments may be withheld after other measures such as advice, persuasion, stimulation, and encouragement have failed.⁶⁸ However, this procedure of withholding funds may be accomplished only after due notice and an opportunity for a formal hearing, and the decision of an administrator to withhold funds may be contested either by court review or before the legislative body appropriating grant-in-aid funds.

Either temporary or permanent imposition of sanctions does not actually correct the weakness in program or administration; in fact, it eliminates opportunity for further grantor-grantee cooperative relationships and it gives the grantee the authority to seek the reinstatement of funds through either court action or appeal to the legislative body which enacted the grant legislation. Therefore, it should be used only in cases of extreme disregard of the conditions imposed by the grantor. The fact still remains, however, that the power of imposing sanctions is a desirable provision in grant-in-aid laws.

⁶⁸ Key, V. O., Jr. : Op. cit., p. 173.

Summary

The growth and development of this Nation have produced economic and sociological changes which have made it desirable for central governments to increase their incomes and to distribute some of their public funds equitably to subsidiary units of government. To effect this distribution, legislators have developed systems of grants-in-aid and shared taxes which have been used to aid and benefit many governmental functions. Both of these devices have been used to transfer public revenue from one level to another level of government. The essential differences between the two methods are that shared taxes are based upon distributing funds collected by central governments to local governments in fixed proportion to the yield of a specific tax for general or specific governmental functions, while grants-in-aid come from the revenue of the central government and are granted for specific governmental functions.

The fiscal importance of grant programs has largely risen out of the shift from a relatively simple and local agrarian economy to a broad and complex industrial one. This transformation has caused the dislocation of State and local fiscal systems and has created problems of taxation which were not significant in earlier days. The magnitude of this development is indicated by the fact that more than \$3,000,000,000 was expended in 1944 by levels of government other than those at which the revenues were collected.

The primary purpose of grants-in-aid or shared taxes is to assure the grantee funds, which, together with those available from local sources, will be sufficient to develop programs embodying acceptable standards and satisfying local needs. Secondly, financial aid by the central government tends to stimulate the development of new services and the expansion of existing programs. Finally, an incentive to adopt high standards of program content and administrative procedure is provided by such financial assistance.

Grants-in-aid originated during the latter part of the eighteenth century, when land grants were made for educational purposes. There were four periods in the development of the grant programs. The first period, which began in 1785, was characterized by grants designed to develop the country and included aid to schools, railroads, industry, and business. This aid consisted primarily of land grants. A second type of grant-in-aid development started about 1860; the major pur-

pose of grant legislation of this period was the stimulation of specific new governmental functions. Around 1910 the equalization of programs among grantees became an important consideration. During the last 20 years, the financial assistance offered by grants-in-aid has assumed increasing importance. Its recognition was marked when financial need was included as a factor to be considered in the allocation of funds.

In this country, the history of shared taxes dates from about 1900. While this type of assistance has not been used in Federal-State relations, it has been increasingly employed by the States to aid local communities. For example, there were 260 State-administered, locally shared tax laws in the various States in 1940.

The success of any program designed to distribute centrally collected revenue to subsidiary governments is largely dependent upon procedures written into statutes or administratively determined. Of the two basic types of grant-in-aid appropriations, one involves funds voted for grants in specific amounts unrelated to service requirements or fiscal capacity, while the other provides a "sum sufficient to meet the costs of the program."

The distribution of funds may depend on an administrator's subjective appraisal of the grantee's financial and other resources, and his need for expanding the program. Since the element of personal judgment dominates such a practice, this method frequently favors some grantees at the expense of others and may impair cooperative relations. In contrast to individual judgment, an objective formula provides a method of orderly division of the public funds which are entrusted to the grantor government.

Certain basic principles applicable to the development of allocation formulas have evolved from experience. To be acceptable, the distribution of funds should be based upon the grantee's financial and other resources, and upon his service requirements. In planning the allocation procedure the programs for all grantee units should be considered, as well as the need for equalizing financial differences among States and local areas. The method of allocation should envision long range planning and encourage increasing local financial participation.

Various methods have been employed in allocating grants-in-aid to meet changing conditions. Distribution may take the form of equal division among grantees without reference to differences in service requirements, population to be served, or fiscal ability. This method has particular merit if the benefits of a grant program are not restricted by State boundaries but serve all the people, and if the size of the appropriations is not large. More frequently, allocations are determined by a variable formula which takes into account the wide differences among local governments in service requirements and

ability to meet the cost of a program. In attempting to evaluate these two factors, a variety of yardsticks have been employed—such measures as count of total population groups, units of service, indices of sickness and mortality, and fiscal ability. While such criteria seldom represent direct measurements of the actual problem involved, they are indices which have proved satisfactory when used.

In the United States, grants-in-aid are customarily paid on the condition that the grantee spend funds for the same general purpose that the grant supports. Uniform matching requirements of all grantees have usually been set up, but variable formulas might well be employed to take into account the differences in the relative fiscal ability of grantees.

Plans for equalizing the differences in fiscal capacity among grantees have been developed. In using equalization formulas, it is assumed that total population represents a usable measure of service requirements and that per capita income is an index of financial ability and, conversely, of the financial need of the grantee. By simple arithmetical operations, population and financial need can be combined to arrive at a weighted population figure which can be employed as the basis for distributing available funds. Each grantee would receive its share of funds in the same proportion that its weighted population bears to the sum of the weighted populations for all participating communities. In turn, the ratio of each community's fiscal capacity to its financial need would determine the amount of local funds the community must provide to match each dollar of grant.

In the administration of grant-in-aid programs, the cooperative efforts of grantor and grantee should be directed toward more advanced program planning, improved field service of an advisory nature on the part of the grantor, record systems or audits which evaluate the program, and higher qualifications for personnel. Determining program objectives and program operation becomes a joint responsibility of grantor and grantee. Their mutual understanding and cooperation are prerequisites for any effective grant-in-aid program.

Appendix

Allocation Procedures of the Public Health Service

The procedures used by the Public Health Service in allocating grants-in-aid to the States may be divided into two categories. The grants distributed in accordance with the provisions of section 314 of the Public Health Service Act constitute one group, while grants for hospital survey and construction activities distributed under the provisions of sections 613 and 614 of the same Act comprise the second group. Section 314 indicates that population, extent of the problem, and financial need are the factors to be considered by the Surgeon General when allocating grants for general health, venereal disease control, tuberculosis control, and mental health purposes. The designation of the weights assigned to each factor, the units of measurement, and the mathematical techniques of allocation are left to the determination of the Surgeon General. On the other hand, sections 613 and 614, in direct contrast to section 314, provide the specific formula for the allocation of hospital survey and construction funds. The operation of these two general types of formulas will be illustrated in this Appendix.

As already mentioned, section 314 requires that population, extent of the problem, and financial need must be considered in allocation formulas for general health, venereal disease control, tuberculosis control, and mental health funds. Except for the weights and units of measurement assigned to the factors, the methods employed in the allocation of grants for each of these purposes are essentially the same. The allocation procedure used for general health funds will serve to illustrate the operation of this technique.

The specific factors used to measure population, extent of the problem, and financial need are defined by regulations; those applicable to general health allocations are given here. Population is defined as the most recent population estimate available from the Bureau of the Census on January 1 of the year preceding the fiscal year for which allocations are being made. For the fiscal year 1949 the estimate used was for July 1, 1946. Financial need is defined as the average annual per capita income for the five most recent years for which data are available from the Bureau of Foreign and Domestic Commerce of the Department of Commerce. The measurement of population and financial need is common to all programs authorized in section 314. The extent of the problem, however, is measured by a wide variety of factors in the various programs. Two indices of the extent of the problem are used in making allocations for general health purposes. The first involves the average annual number of deaths from all causes except tuberculosis, venereal diseases, cancer, maternal and infant mortality, and violent and accidental deaths during the most recent 5-year period for which data are available. Allocations for the fiscal year 1949 were based upon data for the years 1941-45. The second index of the extent of the problem involves the reciprocal of the density of population, as determined from Statistical Abstracts.

The percentage of the total funds available for allocation under each of these factors is determined by the Surgeon General within limitations prescribed in regulations. It is currently the practice to allocate 60 percent of general health funds on the basis of population weighted by an index of financial need, 35 percent on the basis of mortality data, and 5 percent on the basis of population density.

After defining the factors used in the allocation formula and indicating the weight assigned to each, consideration is given next to the actual procedures used in determining the allotment to any State. As an example, tables are presented here indicating the allocation of \$1,000,000 to the several States and Territories for the fiscal year 1949.

Table 1 indicates the procedure used in the distribution of the 60 percent of the funds allocated on the basis of population weighted by an index of financial need. The preparation of each column will be discussed separately.

Column A contains the estimated population of each State and Territory as of July 1, 1946. These data were obtained from the Bureau of the Census.

Column B contains the average annual per capita income for the five most recent years for which data are available from the Department of Commerce. The average is obtained by adding the annual per capita income for each of the 5 years and dividing by 5.

Column C indicates the Index of Financial Need. This value for each State or Territory is calculated by dividing 1,000 by the per capita income data for that particular State recorded in column B. For example, the value in column C for Alabama is obtained by dividing 1,000 by the 665 opposite Alabama in column B.

Column D is the population weighted by the Index of Financial Need. This column is actually a weighted population which has been adjusted to the relative financial need of the several States. The values are obtained by multiplying the population in column A by the Index of Financial Need in column C.

The allocation procedure then becomes relatively simple. If 60 percent of the \$1,000,000 is to be allocated on the basis of population weighted by financial need, then \$600,000 should be distributed on the basis of the weighted population record in column D. First, all the weighted populations in column D are added to obtain a total weighted population. Next, the \$600,000 to be distributed on the basis of this weighted population is divided by the total of the weighted populations to give the grant per unit of weighted population. Finally, the unit grant is multiplied by the weighted population of each State as shown in column D and the grant (or the resulting product) is recorded in column E.

Table 2 indicates the procedure used in the distribution of the 35 percent of the funds which is allocated on the basis of mortality. The average annual mortality for the most recent 5-year period for which data are available is calculated by adding the annual deaths for 5 years and dividing by 5. This value for each State is recorded in column A. The sum of column A gives the total of such deaths in all grantee areas. The \$350,000 available for distribution on the basis of this factor divided by the total average annual deaths for the selected causes gives a unit grant for each average annual death. The grant to each State may then be determined by multiplying the average annual deaths for that State (column A) by the unit grant and recording the product in column B.

Table 3 indicates the procedure used in distributing the 5 percent of the funds determined by population density. Since the extent of health problems varies inversely with the density of population, the reciprocal of the population per square mile is calculated by dividing 1,000 by density of population per square mile. (1,000 divided by column A.) This reciprocal is recorded in column B. The technique used in the distribution of general health funds is to allocate a uniform grant to the 13 most sparsely populated States and territories. This is accomplished by assigning a weighted value to the reciprocal recorded in column B. The 13 States with the highest reciprocal values are assigned the value of the thirteenth State, and all other States are assigned weighted values equal to their reciprocals. This is done merely by arraying all the reciprocal values from the highest to the lowest, selecting the thirteenth value, and assigning it to the first 13 States in the array. The weighted values of all States are then

added. The total obtained, divided into the \$50,000 to be distributed on the basis of population density, gives a unit grant per unit of weighted value. The grant to each State is then easily determined by multiplying the value in column C for that State by the unit grant and recording the resulting allocation in column D.

Table 4, which is derived from the three previously prepared tables, indicates the total allocation to each State from the entire sum available, \$1,000,000. Column E of table 1 indicates the amount of money each State receives on the basis of population weighted by an index of financial need. Column B of table 2 indicates the grant to each State on the basis of mortality from selected causes. Column D of table 3 indicates the grant to each State on the basis of population density. These three values are posted in columns A, B, and C, respectively, of table 4, and totaled to obtain the total allocation recorded in column D of table 4.

These four tables indicate the procedure for preparing allocations under the provisions of section 314 of the Public Health Service Act. While the example cited pertains specifically to the allocation of general health funds, the principles and general methodology involved are applicable to grants-in-aid for other programs authorized under section 314.

Title VI—Construction of hospitals—provides for distribution of grants-in-aid to the States for surveys and planning, and also for the construction of hospitals. The allocation procedure for each type of grant is specifically enumerated in the act. Section 613 of the act says, in part, "Each State for which a State application under section 612 has been approved shall be entitled to an allotment of such proportion of any appropriation made pursuant to section 611 as its population bears to the population of all States, * * * *Provided*, That no such allotment to any State shall be less than \$10,000." The actual allocation procedure for survey and planning grants is relatively simple. The money appropriated for surveys and plans is divided by the total population, which results in a per capita grant for this purpose. The grant to each State or Territory is then determined by multiplying the population of each recipient by the per capita grant. Any allocations calculated by this method which result in grants of less than \$10,000 are adjusted so that each grantee receives a minimum of \$10,000, while downward adjustments are made for all other grantees to compensate for the increases required by the law.

The allocations for construction purposes are calculated in the manner set forth in section 624 of the Public Health Service Act which states, "Each State for which a State plan has been approved prior to or during a fiscal year shall be entitled for such year to an allotment of a sum bearing the same ratio to the sums authorized to be appropriated pursuant to section 621 for such year as the product of (a) the population of such State and (b) the square of its allotment percentage [as defined in section 631 (a)] bears to the sum of the corresponding products for all the States. The amount of the allotment to a State shall be available, in accordance with the provisions of this part, for payment of 33⅓ per centum of the costs of the projects within the State." The allotment percentage is defined in section 631 (a) as follows: "The allotment percentage for any State shall be 100 per centum less that percentage which bears the same ratio to 50 per centum as the per capita income of such State bears to the per capita income of the continental United States (excluding Alaska), except that (1) the allotment percentages shall in no case be more than 75 per centum or less than 33⅓ per centum, and (2) the allotment percentage for Alaska and Hawaii shall be 50 per centum each, and the allotment percentage of Puerto Rico shall be 75 per centum."

The procedure for calculating the allocation to a State is carried out in the following manner: the population of each State is multiplied by the square of

that State's allotment percentage. All the resulting weighted populations are added to determine the total weighted population for all grantees. The amount of funds available for allocation divided by the sum of the weighted populations determines the grant per unit of weighted population. The grant to any State is the population of that State multiplied by the unit grant.

TABLE I. *Allocation of 60 percent of general health funds on the basis of population weighted by an index of financial need*

State	Column A Estimated population, July 1, 1946 ¹	Column B Average annual per capita income, 1942-46 ²	Column C Index of financial need ³	Column D Product of population and index of financial need	Column E Allocation
Total.....	142,881,706	\$1,087	-----	142,858,061	\$600,000
Alabama.....	2,807,817	665	1.50375940	4,222,281	17,734
Arizona.....	622,804	924	1.08225108	674,030	2,831
Arkansas.....	1,884,659	589	1.69779287	3,199,761	13,439
California.....	9,550,727	1,448	0.69606773	6,595,806	27,702
Colorado.....	1,137,581	1,054	0.94876660	1,079,299	4,533
Connecticut.....	1,963,519	1,443	0.69300069	1,360,720	5,715
Delaware.....	286,527	1,398	0.71530758	204,955	861
District of Columbia.....	843,451	1,342	0.74515648	628,503	2,640
Florida.....	2,310,303	931	1.07411386	2,481,528	10,423
Georgia.....	3,128,302	716	1.39664804	4,369,137	18,350
Idaho.....	472,314	1,010	0.99009901	467,638	1,964
Illinois.....	8,028,453	1,303	0.76745971	6,161,514	25,878
Indiana.....	3,767,313	1,076	0.92936803	3,501,220	14,705
Iowa.....	2,543,502	970	1.03092784	2,622,167	11,013
Kansas.....	1,861,195	1,010	0.99009901	1,842,767	7,739
Kentucky.....	2,745,590	662	1.51057402	4,147,417	17,419
Louisiana.....	2,519,520	746	1.34048257	3,377,373	14,185
Maine.....	876,213	1,011	0.98911968	866,680	3,640
Maryland.....	2,186,872	1,254	0.79744817	1,743,917	7,324
Massachusetts.....	4,590,244	1,257	0.79554495	3,651,753	15,337
Michigan.....	6,064,899	1,204	0.83056478	5,037,292	21,157
Minnesota.....	2,821,442	923	1.08342362	3,056,817	12,839
Mississippi.....	2,099,533	503	1.98807157	4,174,022	17,531
Missouri.....	3,776,250	970	1.03092784	3,893,041	16,351
Montana.....	478,477	1,150	0.86956322	416,067	1,747
Nebraska.....	1,275,713	1,009	0.99109028	1,264,334	5,310
Nevada.....	135,414	1,530	0.65359477	88,506	372
New Hampshire.....	516,735	888	1.12612613	581,909	2,444
New Jersey.....	4,394,261	1,374	0.72780204	3,132,650	13,157
New Mexico.....	528,997	769	1.30039012	687,902	2,889
New York.....	13,741,836	1,446	0.69156293	9,503,344	39,914
North Carolina.....	3,640,645	676	1.47928994	5,385,570	22,619
North Dakota.....	537,084	1,012	0.98814229	530,715	2,229
Ohio.....	7,516,855	1,237	0.80840744	6,076,682	25,522
Oklahoma.....	2,224,939	777	1.28700129	2,863,499	12,026
Oregon.....	1,452,618	1,190	0.84033613	1,220,687	5,127
Pennsylvania.....	10,023,750	1,131	0.88417330	8,862,732	37,223
Rhode Island.....	744,986	1,288	0.77639752	578,405	2,429
South Carolina.....	1,909,173	626	1.59744409	3,049,797	12,809
South Dakota.....	547,664	995	1.00502513	550,416	2,312
Tennessee.....	2,997,826	740	1.35135135	4,051,116	17,015
Texas.....	6,959,481	880	1.13636364	7,908,501	33,215
Utah.....	636,821	1,028	0.97276265	619,476	2,602
Vermont.....	352,998	935	1.06951872	377,538	1,586
Virginia.....	2,985,851	897	1.11482720	3,328,708	13,981
Washington.....	2,254,098	1,373	0.72833212	1,641,732	6,895
West Virginia.....	1,807,091	772	1.29533679	2,340,791	9,831
Wisconsin.....	3,168,158	1,062	0.94161959	2,983,200	12,523
Wyoming.....	262,895	1,025	0.97560976	256,483	1,077
Alaska.....	133,671	* 503	1.98807157	265,748	1,116
Hawaii.....	744,803	* 1,010	0.99009901	737,429	3,097
Puerto Rico.....	2,083,130	* 503	1.98807157	4,141,412	17,394
Virgin Islands.....	26,696	* 503	1.98807157	53,074	223

¹ Estimated de facto population of the United States, by States, July 1, 1946. Bureau of Census. Series P-25, No. 2, Aug. 15, 1947. For Territories, estimates of July 1, 1945. Bureau of Census. Series P-46, No. 9, Dec. 18, 1946.

² Average annual per capita income as calculated from per capita incomes for 1942-44 based upon Survey of Current Business, vol. 27, No. 9, p. 24, September 1947 and for 1945 and 1946 from Survey of Current Business, vol. 27, No. 8, p. 22, August 1947.

³ Computed by dividing 1,000 by the average annual per capita income, 1942-46, for each State.

⁴ Per capita income of State with lowest per capita income is assumed for these Territories in the absence of any accurate data for Alaska, Puerto Rico, and Virgin Islands.

⁵ In the absence of accurate data, per capita income for Hawaii was determined by using the median per capita income figure of the 48 States and District of Columbia.

TABLE 2. *Allocation of 35 percent of general health funds on the basis of mortality*

State	Column A Average annual mortality, 1941-45 ¹	Column B Allocation	State	Column A Average annual mortality, 1941-45 ¹	Column B Allocation
Total.....	955,176	\$350,000	Nevada.....	914	335
Alabama.....	16,847	6,173	New Hampshire.....	4,286	1,570
Arizona.....	2,900	1,063	New Jersey.....	32,843	12,034
Arkansas.....	10,016	3,670	New Mexico.....	2,675	980
California.....	56,790	20,809	New York.....	104,820	38,409
Colorado.....	7,979	2,924	North Carolina.....	18,613	6,820
Connecticut.....	12,805	4,692	North Dakota.....	3,400	1,246
Delaware.....	2,276	834	Ohio.....	53,855	19,734
District of Columbia.....	5,241	1,920	Oklahoma.....	12,532	4,592
Florida.....	14,240	5,218	Oregon.....	8,838	3,238
Georgia.....	19,178	7,027	Pennsylvania.....	76,434	28,007
Idaho.....	3,006	1,101	Rhode Island.....	5,846	2,142
Illinois.....	60,989	22,348	South Carolina.....	11,473	4,204
Indiana.....	27,441	10,055	South Dakota.....	3,735	1,369
Iowa.....	17,898	6,558	Tennessee.....	17,492	6,410
Kansas.....	12,818	4,697	Texas.....	36,266	13,289
Kentucky.....	18,063	6,619	Utah.....	3,170	1,162
Louisiana.....	14,463	5,300	Vermont.....	3,041	1,114
Maine.....	7,108	2,605	Virginia.....	18,551	6,809
Maryland.....	15,387	5,638	Washington.....	14,153	5,186
Massachusetts.....	36,151	13,247	West Virginia.....	10,328	3,784
Michigan.....	36,160	13,250	Wisconsin.....	21,582	7,908
Minnesota.....	17,734	6,498	Wyoming.....	1,378	505
Mississippi.....	13,457	4,931	Alaska.....	647	237
Missouri.....	29,495	10,808	Hawaii.....	1,745	639
Montana.....	3,653	1,339	Puerto Rico.....	15,501	5,680
Nebraska.....	8,682	3,151	Virgin Islands.....	251	92

¹ Includes all deaths except those from tuberculosis, venereal disease, cancer, violence, and accidents, and maternal and infant deaths.

Table 3. *Allocation of 5 percent of general health funds on the basis of population density*

State	Column A Population per square mile ¹	Column B Reciprocal of population per square mile ²	Column C Weighted value of reciprocal	Column D Allocation
Total.....			1, 289. 0079	\$50, 000
Alabama.....	54. 9712	18. 1913	18. 1913	706
Arizona.....	5. 4834	182. 3686	52. 1024	2, 021
Arkansas.....	35. 7451	27. 9759	27. 9759	1, 085
California.....	60. 9091	16. 4179	16. 4179	637
Colorado.....	10. 9418	91. 3926	52. 1024	2, 021
Connecticut.....	400. 8000	2. 4950	2. 4950	97
Delaware.....	144. 8569	6. 9034	6. 9034	268
District of Columbia.....	13, 827. 0656	0. 0723	0. 0723	3
Florida.....	42. 5768	23. 4870	23. 4870	911
Georgia.....	53. 4588	18. 7060	18. 7060	726
Idaho.....	5. 7037	175. 3248	52. 1024	2, 021
Illinois.....	143. 5010	6. 9686	6. 9686	270
Indiana.....	104. 0550	9. 6103	9. 6103	373
Iowa.....	45. 4310	22. 0114	22. 0114	854
Kansas.....	22. 6663	44. 1184	44. 1184	1, 711
Kentucky.....	68. 4532	14. 6085	14. 6085	567
Louisiana.....	55. 7700	17. 9308	17. 9308	695
Maine.....	28. 2285	35. 4252	35. 4252	1, 374
Maryland.....	221. 1866	4. 5211	4. 5211	175
Massachusetts.....	580. 5304	1. 7226	1. 7226	67
Michigan.....	106. 3607	9. 4020	9. 4020	365
Minnesota.....	35. 2641	28. 3575	28. 3575	1, 100
Mississippi.....	44. 2752	22. 5860	22. 5860	876
Missouri.....	54. 5149	18. 3436	18. 3436	711
Montana.....	3. 2702	305. 7917	52. 1024	2, 021
Nebraska.....	16. 6427	60. 0864	52. 1024	2, 021
Nevada.....	1. 2333	810. 8327	52. 1024	2, 021
New Hampshire.....	57. 2623	17. 4635	17. 4635	677
New Jersey.....	572. 2229	1. 7476	1. 7476	68
New Mexico.....	4. 3535	229. 7002	52. 1024	2, 021
New York.....	286. 7123	3. 4878	3. 4878	135
North Carolina.....	74. 0842	13. 4982	13. 4982	524
North Dakota.....	7. 6667	130. 4342	52. 1024	2, 021
Ohio.....	182. 7940	5. 4706	5. 4706	212
Oklahoma.....	32. 1138	31. 1393	31. 1393	1, 208
Oregon.....	15. 0765	66. 3284	52. 1024	2, 021
Pennsylvania.....	222. 5275	4. 4938	4. 4938	174
Rhode Island.....	704. 1456	1. 4202	1. 4202	55
South Carolina.....	62. 4035	16. 0247	16. 0247	622
South Dakota.....	7. 1556	139. 7507	52. 1024	2, 021
Tennessee.....	71. 4431	13. 9972	13. 9972	543
Texas.....	26. 3973	37. 8827	37. 8827	1, 469
Utah.....	7. 7335	129. 3076	52. 1024	2, 021
Vermont.....	38. 0468	26. 2834	26. 2834	1, 020
Virginia.....	74. 8352	13. 3627	13. 3627	518
Washington.....	33. 6548	29. 7134	29. 7134	1, 153
West Virginia.....	75. 0142	13. 3308	13. 3308	517
Wisconsin.....	57. 9029	17. 2703	17. 2703	670
Wyoming.....	2. 6962	370. 8924	52. 1024	2, 021
Alaska.....	0. 2341	4, 271. 6788	52. 1024	2, 021
Hawaii.....	115. 6347	8. 6479	8. 6479	335
Puerto Rico.....	608. 5685	1. 6432	1. 6432	1
Virgin Islands.....	202. 2424	4. 9446	4. 9446	192

¹ Calculated by dividing land area of 1940 as reported in Statistical Abstracts 1946, p. 3, by the July 1, 1946 population estimate.

² Values have been multiplied by 10,000,000 in order to reduce the number of decimals.

Table 4. *Allocation of general health funds*

State	Column A Allocation based on population and financial need ¹	Column B Allocation based on mortality ²	Column C Allocation based on population density ³	Column D Total Allocation ⁴
Total.....	\$600,000	\$350,000	\$50,000	\$1,000,000
Alabama.....	17,734	6,173	706	24,613
Arizona.....	2,831	1,063	2,021	5,915
Arkansas.....	13,439	3,670	1,085	18,194
California.....	27,702	20,809	637	49,148
Colorado.....	4,533	2,924	2,021	9,478
Connecticut.....	5,715	4,692	97	10,504
Delaware.....	861	834	268	1,963
District of Columbia.....	2,640	1,920	3	4,563
Florida.....	10,423	5,218	911	16,552
Georgia.....	18,350	7,027	726	26,103
Idaho.....	1,964	1,101	2,021	5,086
Illinois.....	25,878	22,348	270	48,496
Indiana.....	14,705	10,055	373	25,133
Iowa.....	11,013	6,558	854	18,425
Kansas.....	7,739	4,697	1,711	14,147
Kentucky.....	17,419	6,619	567	24,605
Louisiana.....	14,185	5,300	695	20,180
Maine.....	3,640	2,605	1,374	7,619
Maryland.....	7,324	5,638	175	13,137
Massachusetts.....	15,337	13,247	67	28,651
Michigan.....	21,157	13,250	365	34,772
Minnesota.....	12,839	6,498	1,100	20,437
Mississippi.....	17,531	4,931	876	23,338
Missouri.....	16,351	10,808	711	27,870
Montana.....	1,747	1,339	2,021	5,107
Nebraska.....	5,310	3,181	2,021	10,512
Nevada.....	372	335	2,021	2,728
New Hampshire.....	2,444	1,570	677	4,691
New Jersey.....	13,157	12,034	68	25,259
New Mexico.....	2,889	980	2,021	5,890
New York.....	39,914	38,409	135	78,458
North Carolina.....	22,619	6,820	524	29,963
North Dakota.....	2,229	1,246	2,021	5,496
Ohio.....	25,522	19,734	212	45,468
Oklahoma.....	12,026	4,592	1,208	17,826
Oregon.....	5,127	3,238	2,021	10,386
Pennsylvania.....	37,223	28,007	174	65,404
Rhode Island.....	2,429	2,142	55	4,626
South Carolina.....	12,809	4,204	622	17,635
South Dakota.....	2,312	1,369	2,021	5,702
Tennessee.....	17,015	6,410	543	23,968
Texas.....	33,215	13,289	1,469	47,973
Utah.....	2,602	1,162	2,021	5,785
Vermont.....	1,586	1,114	1,020	3,720
Virginia.....	13,981	6,809	518	21,308
Washington.....	6,895	5,186	1,153	13,234
West Virginia.....	9,831	3,784	517	14,132
Wisconsin.....	12,529	7,908	670	21,107
Wyoming.....	1,077	505	2,021	3,603
Alaska.....	1,116	237	2,021	3,374
Hawaii.....	3,097	639	335	4,071
Puerto Rico.....	17,394	5,680	64	23,138
Virgin Islands.....	223	92	192	507

¹ Taken from table 1, column E.² Taken from table 2, column B.³ Taken from table 3, column D.⁴ The sum of columns A, B, and C.

